

ROYAL BOTANIC GARDENS, KEW.

BULLETIN
OF
MISCELLANEOUS INFORMATION.

No. 8]

[1924

XXXVI.—ON THE FLORA OF THE GALLIPOLI
PENINSULA*.

W. B. TURRILL.

SYSTEMATIC LIST AND NOTES.

RANUNCULACEAE.

Adonis cupaniana *Guss.* Syn. ii. 37 (1843).

Kilia, common and abundant, in flower, middle of March 1923, *Ingoldby* 5; and a form with fruits but with smaller flowers and narrower petals than normally, 5.5.23, *Kett* 24.

Distr. V. 1, 2, 2a, 6a, 7.

Anemone coronaria *L.* Sp. Pl. 539 (1753).

Kilia, early March 1923, *Ingoldby* 6; and a variety with dirty cream-yellow sepals received from *Kett*, and in flower at Kew 10.3.24.

Distr. V. 1, 2, 2a, 6, 7, 14.

A. pavonina *Lamk.* Encycl. i. 166 (1783), var. **purpureo-violacea** *Hal.* Consp. Fl. Gr. i. 5 (1900). *A. fulgens* *Gay* var. *purpureo-violacea* *Boiss.* Fl. Or. i. 12 (1867).

Kilia, common, late March or early April 1923, *Ingoldby* 18; Anzac, common, in flower, 20.3.23, *Kett* 60.

One of the involucre bracts in one of the flowers of *Kett* 60 has the colour and texture of the sepals.

Judging from herbarium specimens, from field-notes and from my own field observations I conclude there is no sharp line of distinction between *A. stellata* *Lam.* and *A. pavonina* *Lam.*, at least in the Balkan Peninsula. I hope to investigate this group in cultivation and should be grateful for seeds of wild or cultivated plants from any area.

Distr. (of var.) X. 2, 2a, 3, 6, 6a, 7, 8, 8a.

Clematis flammula *L.* Sp. Pl. 544 (1753).

Boghali, 8.7.23, *Ingoldby* 385.

Distr. VI. 2, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 11, 12, 13, 14, 15, 16.

* Continued from p. 299.

C. vitalba L. Sp. Pl. 544 (1753).

Boghali, 7.7.23, *Ingoldby* 386.

Distr. III. 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

Delphinium aconiti L. Mant. prima 77 (1767).

Maidos, in flower and fruit, 14.6.23, *Ingoldby* 332.

Distr. So far as known endemic to the area around the Dardanelles.

This species, which perhaps forms a morphological connecting link between the two genera *Delphinium* and *Aconitum*, has not been represented previously at Kew by any exactly localized specimen. The following specimens belong to this species: ad Hellespontum, *Aucher-Eloy*, Août 1836; Dardanelles, *F. Calvert*, recd. 1867; Dardanelles, in cultis derelictis, 26.8.83, *P. Sintenis*. Linnaeus quotes the *Delphinium orientale annuum, flore singulari* of Tournefort Coroll. 30 (1703) as being this species, but Tournefort gives no locality and I have not discovered that he collected in the Dardanelles area. There is a figure of the species in Vahl Symb. i. 40, t. xiii. (1790).

D. junceum DC. Fl. Fr. v. 641 (1815).

Near Gaba Tepe, common in patches in open meadow lands, 10.6.23, *Ingoldby* 308.

Distr. VI. 2, 2a, 3, 3b, 4a, 5, 6a, 6b, 7, 8a, 14.

D. orientale Gay in Desmoul. et Maisonn. Pl. de la Dordogne i. 12 (1840).

Kilia, local and rare, 18.5.23, *Ingoldby* 202.

Distr. V. and north to Hungary. 2, 3, 6, 6a, 7, 8, 8a, 8b, 9, 10.

Mr. A. J. Wilmott in Journ. Bot. lxii. 26 (1924) states that *D. orientale* Gay is *D. Ajacis* L., and proposes the name *D. Gayanum* for *D. Ajacis* of Gay and most authors. To use the name *D. Ajacis* for *D. orientale* will cause unnecessary confusion and I propose to retain the name *D. orientale* and to withhold judgment on the names *D. Ajacis* and *D. Gayanum* until the details are published.

D. paniculatum Host Fl. Austr. ii. 65 (1831).

Kara Kova Dere, on dry meadow land, in flower and fruit, 30.7.23, *Ingoldby* 531.

Distr. XIX. and to Hungary and Asia Minor. 2, 3, 3b, 4, 5, 6, 6a, 7, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

D. subvelutinum Heldr. ex R. Buser in Boiss. Fl. Or. Suppl. 19 (1888). *D. eriocarpum* Hal. Consp. Fl. Gr. i. 32 (1900).

D. peregrinum var. *eriocarpum* Boiss. Fl. Or. i. 87 (1867).

Angadere, 1.7.23, *Ingoldby* 347.

Distr. XI. 2a, 5, 6a, 7.

D. subvelutinum Heldr. ex R. Buser var. **transiens** Turrill
(comb. nov.). *D. eriocarpum* Hal. var. **transiens** Hal. Consp.
Fl. Gr. i. 33 (1900).

Angadere, 1.7.23, *Ingoldby* 346.

Distr. XI. 2a, 5, 6a, 7.

Nigella arvensis L. Sp. Pl. 534 (1753).

Maidos, 14.6.23 and 14.7.23, *Ingoldby* 333, 375.

Distr. V. and XII. 1, 2, 3, 3a, 3b, 4, 5, 6, 6a, 6b, 7, 7a, 8, 8a,
9, 10, 11, 13, 14, 16.

Ranunculus arvensis L. Sp. Pl. 555 (1753).

Kilia, common, 19–22.4.23, *Ingoldby* 42; Kilia, 25.4.24,
Durham 114.

Distr. VI. and XII. 1, 2, 3, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 12,
13, 14, 15, 16.

R. flabellatus Desf. Fl. Atlant. i. 438, t. 114 (1798).

Kilia, 22.4.24, *Durham* 2.

Distr. V. 1, 2, 2a, 4a, 6a, 7, 10a, 11, 16.

R. flabellatus Desf. var. **glabrescens** Freyn in Willk. et Lange
Prodr. Fl. Hisp. iii. 924 (1880) e descriptione.

Suvla, 24.4.24, *Durham* 51.

Distr. Here and there in the distributional area of the species
as a whole.

R. Heldreichianus Jord. Obs. vi. 14 (1847); Boiss. Fl. Or. i.
34 (1867); Hal. Consp. Fl. Gr. i. 17 (1900).

Kilia, on ditch banks and in damp places, 19–22.4.23,
Ingoldby 37.

Distr. XX. 2, 6a.

R. sardous Crantz Stirp. Austr. ii. 84 (1763).

Suvla and Anzac, 16.5.24, *Kett* 112.

Distr. VI. and XII. 1, 2, 2a, 3, 3b, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9,
10, 10a, 11, 12, 13, 14, 15, 16.

R. trichophyllus Chaix in Vill. Hist. Pl. Dauph. i. 335 (1786),
sensu Boiss. Fl. Or. i. 23 (1867) et Hal. Consp. Fl. Gr. i.
12 (1900).

Helles, in flower and young fruit, 23–24.4.23, *Ingoldby* 78;
Suvla, 24.4.24, *Durham* 50.

Distr. III. 1, 2, 3, 3b, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14,
15, 16.

R. velutinus Ten. in Ind. sem. hort. Neap. i. 1 (1825), non vidi,
et Syllog. Fl. Neap. 272 (1831); Freyn in Oester. Bot.
Zeitschr. xxv. 121 (1875) et l. c. xxvi. 157 (1876).

Suvla, in water, 24.4.24, *Durham* 46.

Distr. VI. and XIVa. 1, 2, 3, 4a, 8, 8a, 10, 10a, 11, 13, 14, 16.

BERBERIDACEAE.

Leontice leontopetalum L. Sp. Pl. 312 (1753).

Helles, in flower, 26.3.23, *Kett* 20; Anzac, in flower, May 1923, *Kett* 20a; Suvla, in fruit, 17.5.23, *Kett* 37.

Distr. XI. 1, 2, 2a, 3, 6a, 7.

PAPAVERACEAE.

Fumaria Kralikii Jord. in Cat. Dijon 19 (1848) et Linnaea xxiii. 471 (1850); Pugsley in Journ. Linn. Soc. xlv. 298 (1919).

Walker's Ridge, Anzac, 90 m., in flower and fruit, 16.5.23, *Kett* 5.

Distr. XI. 2, 3, 6a, 7, 8a, 8b, 10, 14, 16.

Glaucium corniculatum Curt. Fl. Lond. vi. t. 32 (1798).

Chelidonium corniculatum L. Sp. Pl. 506 (1753).

Green Hill, Anzac, in fruit, 16.5.23, *Kett* 32. I do not know the flower colour of this specimen.

Distr. V. and XII. 1, 2, 2a, 3, 5, 6, 6a, 7, 8, 8a, 9, 10.

G. corniculatum Curt. var. **flaviflorum** DC. Prodr. i. 122 (1824).

Kilia, road-side, in flower and fruit, 11.8.23, *Ingoldby* 550.

Distr. As for the species as a whole.

G. corniculatum Curt. var. **phoeniceum** DC. Prodr. i. 122 (1824).

G. phoeniceum S. et S. Prodr. i. 357 (1806) et Fl. Gr. t. 489 (1825).

Anzac, 24.4.24, *Durham* 94.

Distr. Here and there with the other varieties.

G. corniculatum Curt. var. **rubrum** Boiss. Fl. Or. i. 120 (1867).

G. rubrum S. et S. Prodr. i. 357 (1806) et Fl. Gr. t. 488 (1825).

Suvla and Anzac, 16.5.24, *Kett* 105.

Distr. V., but especially in the eastern parts.

G. flavum Crantz Stirp. Austr. ii. 141 (1763). *G. luteum* Scop. Fl. Carn. ed. 2, i. 369 (1772).

Jam Baz Dere, common but always near the beach, 8.5.23, *Ingoldby* 158a; Angadere, 28-29.7.23, *Ingoldby* 503; Kara Kova Dere, salt-marsh, 30.7.23, *Ingoldby* 521; Suvla, sand dunes, 5.8.23, *Ingoldby*; Suvla and Anzac, 16.5.24, *Kett* 138. *Distr.* VI. and XII. 1, 2, 2a, 4, 4a, 5, 6a, 6b, 7, 8, 8a, 9, 14, 15, 16.

Hypocoum grandiflorum Benth. Cat. Pl. Pyr. 91 (1826).

Angadere, common and abundant, early April 1923, *Ingoldby* 23; Anzac, 24.4.24, *Durham* 30; Anzac, in flower and young fruit, 14.5.23, *Kett* 55; Suvla and Anzac, 16.5.24, *Kett* 126, 152.

Distr. V. 2, 2a, 3, 5, 6, 6a, 7, 7a, 8, 8a, 10.

Papaver dubium L. Sp. Pl. 1196 (1753) var. vel forma ?

Chunuk Bair (Sari Bair), 22.4.23, *Ingoldby*.

Distr. (of the species sensu lato) V. and XII. 1, 2, 2a, 3, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15.

The morphological characters exhibit a very considerable range within what is usually regarded as the species *P. dubium*, and its taxonomic subdivisions have not yet been satisfactorily decided. Extensive field studies and cultural experiments are needed before the real status of the "varieties", etc., can be found.

P. dubium L. var. **albiflorum** Boiss. Fl. Or. i. 115 (1867).

Kilia, in flower, 18.5.23, *Ingoldby* 201.

Distr. Here and there with the other varieties, especially in Central and S.E. Europe.

P. dubium L. var. **subintegrum** Fedde in Engl. und Prantl Pflanzenr. iv. 104, 315 (1909).

Jam Baz, in flower, 8.5.23, *Ingoldby* 163.

Distr. Here and there with the other varieties, especially in Central and S. Europe, the Atlantic Isles and the Orient.

P. rhoeas L. Sp. Pl. 507 (1753).

Near Achi Baba, common, 8.5.23, *Ingoldby* 162; Maidos, 14.7.23, *Ingoldby* 379.

Distr. II. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

P. rhoeas L. var. **strigosum** Bönningh. Prodr. Fl. Monast. 157 (1824). *P. strigosum* Schur in Verh. naturf. Ver. Brünn. xv. 5. 66 (1877).

Near Achi Baba, on dry open ground, in flower, 8.5.23, *Ingoldby* 161 (petalis nigro-maculatis); Ibrahim Keir, 7.7.23, *Ingoldby* 528; without locality, *Ingoldby* 589; Kilia, 25.4.24, *Durham* 118.

Distr. V. and XII. 2, 2a, 6a, 14, 16.

P. somniferum L. Sp. Pl. 508 (1753).

Jam Baz, 8-11.5.23, *Ingoldby* 192.

Distr. Widely cultivated in the Eastern Mediterranean Region and in Southern and Eastern Asia and often recorded as an escape.

Roemeria hybrida DC. Syst. ii. 92 (1821). *Chelidonium hybridum* L. Sp. Pl. 506 (1753).

Helles, common, 23-24.4.23, *Ingoldby* 90; Walker's Ridge, Anzac, 90m., in flower, 21.5.23, *Kett* 43.

Distr. III. 1, 2, 2a, 3, 6a, 7, 8a.

CRUCIFERAE.

Alyssum campestre L. Sp. Pl. ed. 2, 909 (1763).

Helles, common on open hillsides, 23.4.23, *Ingoldby* 65,

Distr. V. and XII. 2, 2a, 3, 4, 4a, 5, 6, 6a, 6b, 7, 8b, 10, 11, 12, 13, 14, 16.

- A. micranthum** *Fisch. et Mey.* Ind. Sem. Hort. Petrop. 22 (1835).
 Anzac, 24.4.24, *Durham* 28; Kilia, 25.4.24, *Durham* 113;
 Suvla and Anzac, 16.5.24, *Kett* 148.
Distr. XI. and XIVa. 2, 3, 6, 6a, 8, 8a, 10.
- A. smyrnaeum** *C. A. Mey.* in Bull. Soc. Acad. Petersb. vii. 132-
 (1840).
 Helles, 23-24.4.23, *Ingoldby* 91.
Distr. X. 2.
- Arabis verna** *R. Br.* in Ait. Hort. Kew. ed. 2, iv. 105 (1812);
 Chaub. et Bory Exp. Mor. 188 (1832), et Fl. Pelop. 42 (1838).
Hesperis verna *L. Sp. Pl.* 664 (1753).
 Kilia, common, 19-22.4.23, *Ingoldby* 54.
Distr. VI. 1, 2, 2a, 3, 4a, 6a, 6b, 7, 8, 11, 13, 14, 15, 16.
- Brassica nigra** *Koch* in Röhlings Deutschl. Fl. ed. 3, iv. 713
 (1833) et Syn. ed. 1, 55 (1835).
 Kara Kova Dere, 30.7.23, *Ingoldby* 516.
Distr. V. and XII. 1, 2, 3, 3b, 4, 4a, 6, 6a, 8a, 9, 10, 11, 12, 14, 15,
 16.
- Bunias erucago** *L. Sp. Pl.* 670 (1753).
 Kilia, 19-22.4.23, *Ingoldby* 41a; Suvla, 14.5.23, *Kett* 52;
 Kilia, 24.4.24, *Durham* 18.
Distr. VI. 1, 2, 2a, 4, 4a, 5, 6, 6a, 7, 8a, 10, 11, 13, 14, 15, 16.
- Cakile maritima** *Scop.* Fl. Carn. ed. 2, ii. 35 (1772). *Bunias*
cakile *L. Sp. Pl.* 670 (1753).
 Anzac, near the beach in sand, 27-28.5.23, *Ingoldby* 244;
 Kara Kova Dere, on the beach, 30.7.23, *Ingoldby* 507, 529;
 Suvla, on sand dunes, 5.8.23, *Ingoldby* 544; and ripe fruits
 from Kara Kova Dere.
Distr. IV. and VI. 1, 2, 2a, 3, 4a, 6a, 7, 8, 8a, 9, 11, 13, 14,
 15, 16.
- Draba verna** *L. Sp. Pl.* 642 (1753). *Erophila verna* *E. Mey*
 ex Garke, Fl. Deutschl. ed. 4, 35 (1851). *E. vulgaris* *DC.*
Syst. ii. 356 (1821).
 Kilia, in flower and fruit, middle of March, *Ingoldby* 30.
Distr. IV. and V. 1, 2, 2a, 3, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11,
 12, 13, 14, 15, 16.
- Eruca sativa** *Mill.* Gard. Dict. ed. 8 (1768); Lam. Fl. Fr. ii.
 496 (1778).
 Kilia, white flowers, 24.4.24, *Durham* 98.
Distr. V. 1, 2, 2a, 3, 4a, 6a, 7, 8, 9, 12, 14, 15, 16.
- Erysimum repandum** *L. Amoen. Acad.* iii. 415 (1756).
 Kilia, common, 19-22.4.23, *Ingoldby* 41.
Distr. V. and XII. 2, 3, 6, 6a, 8, 8a, 8b, 9, 10, 11, 12, 14, 15, 16.
 This species occurs, apparently rather discontinuously, from
 the Canaries through Central and Southern Europe and the

Orient to as far east as Kashmir, where it has been collected between 1500 and 2100 m.

Lepidium draba L. Sp. Pl. 645 (1753).

Kilia, common, 19-22.4.23, *Ingoldby* 50; Kilia, 12.5.23, *Ingoldby* 171; Kilia, the commonest weed at this time, 24.4.24, *Durham* 27; Suvla and Anzac, 16.5.24, *Kett* 117.

Distr. VI. 1, 2, 2a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Malcolmia chia DC. Syst. ii. 440 (1821). *Cheiranthus chius* L. Sp. Pl. 661 (1753). *Wilckia chia* Hal. in Oesterr. Bot. Zeitschr. xlv. 177 (1895) et Consp. Fl. Gr. i. 76 (1900).

Helles, 23-24.4.23, *Ingoldby* 79.

Distr. XI. 1, 2, 2a, 3, 4a, 14.

M. flexuosa S. et S. Fl. Gr. t. 634 (1830). *Cheiranthus flexuosa* S. et S. Prodr. ii. 24 (1813). *Wilckia flexuosa* Hal. in Oesterr. Bot. Zeitschr. xlv. 171 (1895) et Consp. Fl. Gr. i. 73 (1900).

Suvla, on the sea shore, pale violet and pinkish flowers, 24.4.24, *Durham* 71.

Distr. X. 1, 2, 2a, 4a, 7.

Matthiola sinuata R. Br. in Ait. Hort. Kew. ed. 2, iv. 120 (1812). *Cheiranthus sinuatus* L. Sp. Pl. ed. 2, 926 (1763).

Helles, 23-24.4.23, *Ingoldby* 99; Helles, 28.5.23, *Ingoldby* 268.

Distr. VI. 2, 2a, 4a, 5, 11, 14.

M. tricuspidata R. Br. in Ait. Hort. Kew. ed. 2, iv. 120 (1812). *Cheiranthus cuspidatus* L. Sp. Pl. ed. 2, 926 (1763).

Helles, in flower, 24.5.23, *Kett* 46; Angadere, on shingle beach, 18.7.23, *Ingoldby* 457; Angadere, in flower and fruit, 29.7.23, *Ingoldby* 497, 500, 505.

Distr. VI. 1, 2, 2a, 3, 4a, 6a, 7.

Nasturtium officinale R. Br. in Ait. Hort. Kew. ed. 2, iv. 110 (1812). *Sisymbrium nasturtium* L. Sp. Pl. 657 (1753). *Nasturtium fontanum* Aschers. Fl. Brand. 32 (1864); Hal. Consp. Fl. Gr. i. 58 (1900).

Boghali, 29.4.23, *Ingoldby* 126; Kara Kova Dere, 30 m., 30.7.23, *Ingoldby* 512.

Distr. II. 1, 2, 2a, 4a, 5, 6, 6a, 7, 8, 8a, 9, 10, 11, 12, 14, 15, 16.

Sinapis arvensis L. Sp. Pl. 668 (1753).

Helles, 23-24.4.23, *Ingoldby* 113.

Distr. IV. and V. 1, 2, 2a, 3, 4a, 5, 7, 8, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

Sisymbrium orientale L. Cent. Pl. ii. 24 (1756) et Amoen. Acad. iv. 322 (1759), var. **leiocarpum** Hal. Consp. Fl. Gr. i. 69 (1900). *Sisymbrium columnae* β *leiocarpum* DC. Syst. ii. 469 (1821).

Near Gaba Tepe, 10.6.23, *Ingoldby* 311.

Distr. V. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 14, 16.

CAPPARIDACEAE.

Capparis sicula *Duh.* *Traité des Arbres* ed. 2, i. 159 (1801).

Walker's Ridge, Anzac, 90 m., May 1923, *Kett* 19; Suvla, on or near low sand dunes, 8.6.23, *Ingoldby* 288; very common at Suvla, Anzac and Helles, flowers purple and white, June, fruit Nov. 1923, *Kett* 82. The plant has a tap-root often 4 feet in length.

Distr. V. 1, 2, 3, 5, 6a, 7, 14, 15, 16.

RESEDACEAE.

Reseda lutea *L.* *Sp. Pl.* 449 (1753).

Kilia, common on open hill-sides and cliff-faces, 19-22.4.23, *Ingoldby* 48, a specimen which has the ovaries and young fruits densely papillose; Kilia, 25.4.24, *Durham* 110.

Distr. V. and XII. 1, 2, 2a, 3, 3b, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

CISTACEAE.

Cistus salviifolius *L.* *Sp. Pl.* 524 (1753).

Walker's Ridge, Anzac, 90 m., in flower, 4.5.23, *Kett* 16; Kilia, common, 22.5.23, *Ingoldby* 215, and a plant with smaller flowers, *Ingoldby* 217.

Distr. VI. 1, 2, 2a, 4, 4a, 5, 6a, 7, 8a, 11, 13, 14, 15, 16.

C. villosus *L.* *Mantissa altera* 402 (1771).

Kilia, common, 22.5.23, *Ingoldby* 216.

Distr. VI. 1, 2, 2a, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 13, 14, 15, 16.

Fumana thymifolia *Verlot.* *Cat. Pl. Vasc. Dauph.* 43 in *Bull. Soc. Statistique* 3me. sér. tome iii. (1872); *Burn. Fl. des Alpes Marit.* 164 (1892), var. **viridis** *Hal.* *Consp. Fl. Gr.* i. 136 (1900). *Helianthemum viride* *Ten.* *Fl. Nap.* i. 299 (1811-1815).

Helles, in flower, 16.5.23, *Kett* 61; Suvla and Anzac, very common on the hill-sides, 16.5.24, *Kett* 88, 137.

Distr. (of var.) VI. 1, 2, 2a, 3, 4a, 6a, 6b, 7.

Helianthemum salicifolium *Mill.* *Gard. Diet.* ed. 8 (1768); *Pers. Syn.* ii. 78 (1807). *Cistus salicifolius* *L.* *Sp. Pl.* 527 (1753).

Kilia, common, 19-22.5.23, *Ingoldby* 40; Helles, in flower, 24.5.23, *Kett* 45; Walker's Ridge, Anzac, 90 m., in flower, May 1923, *Kett* 49; Kilia, pale yellow flowers, 24.4.24, *Durham* 108.

Distr. V. 1, 2, 2a, 3, 4, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 13, 14, 15, 16.

VIOLACEAE.

Viola Kitaibeliana R. et S. Syst. v. 383 (1819). *V. arvensis* Murr. var. *Kitaibeliana* Hal. Conspr. Fl. Gr. i. 145 (1900).

Helles, common, 23-24.4.24, *Ingoldby* 89.

Distr. VIII. and X. 2, 3, 3a, 3b, 4a, 5, 6a, 7, 8, 8a, 8b, 10, 10a, 13, 15, 16.

V. odorata L. Sp. Pl. 934 (1753).

Suan Dere, near the waterfall, Nov. 1923, *Kett* 71.

Distr. III. 1, 2, 3, 3b, 8, 9, 11, 12, 13, 15, 16.

POLYGALACEAE.

Polygala nicaeensis Risso in Koch Syn. 92 (1837) et ed. 2, 98 (1843).

Kilia, 23-24.4.23, *Ingoldby* 107.

Distr. VI. and XII. 2, 3, 3a, 3b, 4a, 5, 6, 6a, 8a, 11, 12, 13, 14, 15, 16.

FRANKENIACEAE.

Frankenia hirsuta L. Sp. Pl. 331 (1753).

Suvla, salt-marsh, 8.6.23, *Ingoldby* 289.

Distr. III. 1, 2, 2a, 7, 9.

CARYOPHYLLACEAE.

Agrostemma githago L. Sp. Pl. 435 (1900).

Jam Baz, 8-11.5.23, *Ingoldby* 179.

Distr. III. 1, 2, 2a, 3, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Arenaria leptoclados Guss. Fl. Sic. Syn. ii. 824 (1844), var. *viscidula* Rouy in Rouy et Fouc. Fl. Fr. iii. 242 (1896).

Helles, open hillsides, 23.4.23, *Ingoldby* 66.

Distr. III. 1, 2, 2a, 3, 3b, 5, 6, 6a, 7, 7a, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

Cerastium pumilum Curt. Fl. Lond. Fasc. vi. t. 30 (1795-1796); Aschers. u. Graebn. Syn. v. i. 657 (1917). *Cerastium glutinosum* Fr. Nov. Fl. Suec. ed. 2, 132 (1828).

Kilia, 19-22.4.23, *Ingoldby* 43a.

Distr. IV. and V. 2, 2a, 3b, 4, 5, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 16.

Dianthus calocephalus Boiss. Diagn. Ser. I. vi. 23 (1845) var. ?

Angadere, open oak scrub, 27.7.23, *Ingoldby* 484.

Distr. (of species) XI. 7.

This plant may be worth a varietal name. The bract scales are shorter, relative to the length of the calyx, and are less abruptly acuminate at the apex, than those of specimens at Kew. I have not, however, seen the original specimens from (Mt.) Tmolus, Lydia, between Bozdagh and Sardes.

Dianthus Ingoldbyi *Turrill* sp. nov.; ab *D. anatolico* Boiss. Diagn. Ser. I. i. 22 (1842) calyceibus longioribus petalis haud roseis distinguitur.

Planta perennis, subcaespitosa, multicaulis, basi leviter suffrutescens. *Caules* erecti, inferne praecipue minute asperuli. *Folia* angustissime linearia, apicem versus in acumen angustum triangulare transientia, basi in vaginam 1.5–2 mm. longam duo confluentia, usque ad 2.6 cm. longa et 2 mm. lata, margine asperulo-serrulata, glauco-viridia. *Inflorescentia* 2-5 flora, ramis lateralibus saepe unifloris, apicem versus floribus 2-3 aggregatis instructa; pedicelli saepe 1 cm. longi squamis 10-12 obtecti; squamae inferiores lineari-lanceolatae, acuminatae, 3-4 mm. longae, superiores calycis basem cingentes, ellipticae vel elliptico-obovatae, apice acuminatae, margine membranaceae. *Calyx* 1.7 cm. longus, glaber, dentibus lanceolatis acuminatis 5 mm. longis, margine membranaceis. *Corolla* obscure pallide ochroleuca vel flavo-viridis, petalorum laminis oblongo-obovatis 4 mm. longis et fere 3 mm. latis apice truncatis minute 5-7 irregulariter dentatis, unguibus angustissime lineari-oblanco-latis 1.6 cm. longis superne 1.25 mm. latis. *Antherae* fere 2 mm. longae. *Ovarium* anguste cylindricum, basi stipo 1 mm. longo instructum, 5.5 mm. altum, glabrum. *Capsula* cylindrica, calyce brevior, carpophoro circiter 2 mm. longo instructa.

Anzac, middle of August, 1923, *Ingoldby* 588.

A sheet in the Kew Herbarium, collected on 29.8.83, "in arenosis prope Maitos" (Maidos), *P. Sintenis* 1061, is also this species.

D. lydus *Boiss.* Diagn. Ser. I. i. 20 (1842) et Fl. Or. i. 513 (1867).

Maidos, in the valley which is partly cultivated and partly open grass-land with a stream accompanied by dense vegetation, magenta flowers, 14.6.23, *Ingoldby* 326; Angadere, 15.7.23. *Ingoldby* 384.

Distr. X.

D. pallens *S. et S.* Prodr. i. 286 (1806) et Fl. Gr. t. 399 (1823).

Angadere, on dry flat hill-top, 150 m., 21.7.23, *Ingoldby* 425.

Distr. XI. 2, 3, 3a, 4a, 6, 6a, 7, 7a, 8, 8a, 9, 10.

I am not sure that this species can be separated definitely from *D. leptopetalus* Willd. Pl. Hort. Berol. 468 (1809) and if not this latter name has to be retained as is done by Grisebach Spic. Fl. Rumel. i. 191 (1843). In the shorter, broader laminae to the petals and the shorter calyx-tubes *Ingoldby's* specimen agrees with *D. pallens* *S. et S.* rather than with the original *D. leptopetalus* Willd.

D. pubescens *S. et S.* Prodr. i. 286 (1806) et Fl. Gr. t. 397 (1823), var. **glanduloso-pubescens** *Hal.* Consp. Fl. Gr. i. 206 (1900).

Suvla, on or near low sand dunes, 3.6.23, *Ingoldby* 287. *Distr.* (of var.) XX. 2, 7a.

- Kohlrauschia velutina** Reichb. Ic. Fl. Germ. vi. 43 (1844).
Dianthus velutinus Guss. Pl. Rar. 166 (1826).
 South of Suvla, 24.4.24, *Durham* 88.
Distr. V. 1, 2, 2a, 3, 3b, 4, 4a, 6, 6a, 7, 8a, 8b, 14, 16.
- Silene angustifolia** Guss. Fl. Sic. Prodr. i. 500 (1827), sensu Briquet Prodr. Fl. Cors. 543 (1910).
 Angadere, 18.7.23, *Ingoldby* 460.
Distr. II. 1, 2, 2a, 3, 3a, 3b, 4a, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.
- S. colorata** Poir. Voy. en Barb. ii. 163 (1789).
 Kilia, common, early April, *Ingoldby* 26; Walker's Ridge, Anzac, 90 m., in flower, 21.5.23, *Kett* 50. Kilia, with much divided petals, pink and white flowered forms seen, 24.4.24, *Durham* 24.
Distr. VI. 1, 2, 2a, 4a, 7.
- S. conica** L. Sp. Pl. 418 (1753).
 In fruit, Aug., 1923, *Ingoldby* 602; Kilia, pink flowers, 24.4.24, *Durham* 16.
Distr. III. 2, 3, 3a, 4, 5, 6, 6a, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.
- S. densiflora** d'Urv. in Mém. Soc. Linn. Par. i. 303 (1822).
 Maidos, 14.7.23, *Ingoldby* 377a; Kilia, 8.7.23, *Ingoldby* 408.
Distr. XIVa. 3, 3a, 4, 6, 6a, 7, 8, 8a, 9, 11.
- S. dichotoma** Ehrh. Beitr. vii. 143 (1792) var. **racemosa** Rohrb. Monogr. Silene 95 (1868).
 Angadere, 26.4.23, *Ingoldby* 116.
Distr. XIII. and XIVa. 6, 7, 8, 8a, 8b, 9, 10, 12, 15.
- S. gallica** L. Sp. Pl. 417 (1753).
 Helles, 23-24.4.23, *Ingoldby* 75.
Distr. I. 1, 2, 2a, 4a, 5, 6, 6a, 7, 10, 11, 12, 14, 15, 16.
- Spergularia marginata** Kitt. Taschenb. Fl. Deutschl. ed. 2. 1003 (1844), non vidi; Aschers. u. Graebn. Syn. v. 1, 827 (1919).
 Angadere, near the beach, 18.7.23, *Ingoldby* 455; Kara Kova Dere, in flower and fruit, 30.7.23, *Ingoldby* 506; Suvla sand dunes, in flower and fruit, 5.8.23, *Ingoldby* 547.
Distr. III., and S. Africa. 2, 2a, 7, 8, 9, 14, 16.
- S. salina** J. et C. Presl Fl. Čech. 95 (1819); Aschers. u. Graebn. Syn. v. 1, 832 (1919).
 Anzac, 27-28.5.23, *Ingoldby* 245.
Distr. I. 1, 2, 2a, 6a, 7, 8, 9, 14, 16.
- Velezia quadridentata** S. et S. Prodr. i. 283 (1806) et Fl. Gr. t. 391 (1823).
 Angadere, Biyick Yakajik Tepe, 21.7.23, *Ingoldby* 428.
Distr. XI. 2, 2a, 6a.

PORTULACACEAE.

Portulaca oleracea L. Sp. Pl. 445 (1753).

Angadere, near the beach, 28-29.7.23, *Ingoldby* 504.

Distr. I. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 7a, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

TAMARICACEAE.

Tamarix parviflora DC. Prodr. iii. 97 (1828) ?

Suvla, barren, Nov. 1923, 4 to 5 feet in height, *Kett* 65 ; Anzac and Helles, barren, 3 to 4 feet in height, Nov. 1923, *Kett* 66 ; Suvla and Anzac, in flower and young fruit, 16.5.24, *Kett* 120, 121.

Distr. (of species) XI. 1, 2, 2a, 3, 3a, 4a, 5, 6a, 13.

Unfortunately I do not feel quite certain of the identification of the specimens of this genus from Gallipoli, and desire more material in larger specimens. It is possible that two species are represented.

HYPERICACEAE.

Hypericum crispum L. Mantissa prima 106 (1767).

Kilia, Aug. 1923, *Ingoldby* 585.

Distr. XI. 1, 2, 2a, 3, 6a, 6b, 7, 7a.

H. perforatum L. Sp. Pl. 785 (1753).

Suvla, common, in flower 17.5.23, *Kett* 29 ; Helles, 28.5.23, *Ingoldby* 269.

Distr. III. 1, 2, 2a, 3, 3a, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

H. Spruneri Boiss. Diagn. Ser. I. viii. 112 (1849) et Fl. Or. i. 814 (1867) e descr.

Walker's Ridge, Anzac, 90 m., May 1923, *Kett* 36 ; Anzac, common, 14.5.23, *Kett* 53 ; Suvla, near the beach, 27-28.5.23, *Ingoldby* 243 ; Angadere, 21.7.23, *Ingoldby* 424.

Distr. XX. 2, 3, 3a, 3b, 4, 5.

Our specimens agree with the original description of Boissier, and though no authenticated material is available at Kew or the Natural History Museum for comparison no doubt is felt regarding the identification. Boissier originally described the species from Spruner's specimens collected on Mt. Velugo (*Tymphrestus*) in Aetolia. Since then the species has been found to have a wide distribution in the southern parts of the Balkan Peninsula and it is strange that specimens have not been received before at Kew.

MALVACEAE.

Althaea canabina L. Sp. Pl. 686 (1753).

Angadere, 1.7.23, *Ingoldby* 363, 363a.

Distr. V. 2, 3, 3a, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

A. ficifolia Cav. Dissertat. Bot. de Sida, 92, t. 28. f. 2 (1785)
var. **chersonesensis** Turritt var. nov.; epicalycis segmentis
calycis segmentis aequilongis, petalis pallide violaceis distin-
guuntur.

Suvla, 8.6.23, *Ingoldby* 293.

Distr. (of species) XIVa. 7.

A. hirsuta L. Sp. Pl. 687 (1753).

Anzac, 27.5.23, *Ingoldby* 257; Angadere, grassy clearing on
the summit, 29.7.23, *Ingoldby* 491.

Distr. V. and XII. 1, 2, 2a, 3, 4a, 5, 6, 6a, 7, 8, 8a, 9, 10, 11,
12, 13, 14, 15, 16.

Lavatera punctata All. Auct. Fl. Pedem. 26 (1789).

Angadere, 21.7.23, *Ingoldby* 419.

Distr. VI. 1, 2, 3, 4a, 6a, 7, 14.

Malope malacoides L. Sp. Pl. 692 (1753).

Kilia, 27-28.5.23, *Ingoldby* 232; Boghali, 7.8.23, *Ingoldby*
387.

Distr. VI. 1, 2, 4a, 7, 14.

M. malacoides L. var. **acuminata** Turritt var. nov.; ab exemplis
vulgaribus epicalycis calycisque segmentis longioribus et
majoribus recedit.

Anzac, Brighton Beach, 27.5.23, *Ingoldby* 255.

Malva nicaeensis All. Fl. Pedem. ii. 40 (1785).

Suvla and Anzac, 16.5.24, *Kett* 146.

Distr. X. 1, 2, 2a, 3, 6a, 7, 8, 10, 11, 12, 13, 14, 15, 16.

M. silvestris L. Sp. Pl. 689 (1753).

Kilia, common and abundant, 19-22.4.23, *Ingoldby* 52;
Helles, 28.5.23, *Ingoldby* 277.

Distr. III. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10,
10a, 11, 12, 13, 14, 15, 16.

LINACEAE.

Linum angustifolium Huds. Fl. Angl. ed. 3, 134 (1798).

Angadere, Biyick Yakajik Tepe, 29.4.23, *Ingoldby* 123, and,
in fruit, 28-29.7.23, *Ingoldby* 501.

Distr. VI. and to Caucasasia and W. Europe. 1, 2, 2a, 3, 3b, 4a,
5, 6a, 7, 8, 8a, 8b, 10, 11, 13, 14, 15, 16.

L. austriacum L. Sp. Pl. 278 (1753).

Boghali, 8.7.23, *Ingoldby* 402; Helles, common and abundant,
23-24.4.23, *Ingoldby* 96; Kilia, 25.4.24, *Durham* 115; Suvla
and Anzac, 16.5.24, *Kett* 118.

Distr. V. and XIV. 2, 2a, 3, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 8, 8a,
8b, 9, 10, 11, 13, 14, 15, 16.

L. corymbulosum Reichb. Excurs. 834 (1832). *L. liburnicum* Scop. Fl. Carn. ed. 2, i. 230 (1772)? Hal. Consp. Fl. Gr. i. 255 (1900).

Angadere, 22-24.7.23, *Ingoldby* 437.

Distr. V. and south to Abyssinia. 1, 2, 2a, 3, 4a, 6, 6a, 6b, 7, 8a, 10, 11, 13, 14, 15, 16.

L. nodiflorum L. Sp. Pl. 280 (1753).

Kilia, 24.5.23, *Ingoldby* 228; Angadere, 1.7.23. *Ingoldby* 362.

Distr. V. 1, 2, 2a, 5, 6, 6a, 7, 8a, 8b, 10, 11, 13, 14, 15, 16.

ZYGOPHYLLACEAE.

Tribulus terrester L. Sp. Pl. 387 (1753).

Suvla, very common, in flower and fruit, 20.5.23. *Kett* 31; Angadere, on the beach, in flower and fruit, 28-29.7.23, *Ingoldby* 498, 502; Kara Kova Dere, in the salt marsh, 30.7.23. *Ingoldby* 520.

Distr. Ia. 1, 2, 2a, 4, 4a, 5, 6, 6a, 7, 8, 8a, 9, 10, 12, 13, 14, 15, 16.

GERANIACEAE.

Erodium ciconium L' Hér. in Ait. Hort. Kew. ii. 415 (1789); Willd. Sp. Pl. iii. 629 (1801). *Geranium ciconium* L. Sp. Pl. ed. 2, 952 (1763).

Kilia, common and abundant, 19-22.4.23, *Ingoldby* 55; Suvla, blue-violet flowers, 24.4.24, *Durham* 90.

Distr. VI. 2, 2a, 3, 4a, 6, 6a, 7, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

E. cicutarium L' Hér. in Ait. Hort. Kew. ii. 414 (1789). *Geranium cicutarium* L. Sp. Pl. 680 (1753).

Kilia, common, 19-22.4.23, *Ingoldby* 45.

Distr. I. 2, 2a, 3, 3a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

E. romanum L' Hér. in Ait. Hort. Kew. ii. 414 (1789). *Geranium romanum* L. Sp. Pl. ed. 2, 951 (1763).

Kilia, early April 1923, *Ingoldby* 14.

Distr. VI. 2, 2a, 7.

Geranium dissectum L. Amoen. Acad. iv. 282 (1759).

Kilia, 12.5.23, *Ingoldby* 165.

Distr. I. 1, 2, 2a, 3, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 12, 13, 14, 15, 16.

G. molle L. Sp. Pl. 682 (1753).

Kilia, common, 19-24.4.23, *Ingoldby* 47, 111.

Distr. III. 1, 2, 2a, 3, 3b, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 12, 13, 14, 15, 16.

G. rotundifolium L. Sp. Pl. 683 (1753).

Angadere, 18.7.23, *Ingoldby* 472.

Distr. III. 1, 2, 2a, 3, 3a, 3b, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

G. tuberosum L. Sp. Pl. 680 (1753).

Kilia, common and abundant, early April 1923, *Ingoldby* 19.

Distr. III. 1, 2, 2a, 4a, 5, 6, 6a, 7, 8a, 13, 14.

RUTACEAE.

Ruta Buxbaumii Poir. in Lamk. Encycl. vi. 336 (1804).

Haplophyllum Buxbaumii G. Don. Gen. Syst. i. 780 (1831) as *Aplophyllum Buxbaumii*.

Angadere, 22-24.7.23, *Ingoldby* 445.

Distr. X. 1, 7.

RHAMNACEAE.

Paliurus spina-Christi Mill. Gard. Diet. ed. 8 (1768).

Helles, with flowers somewhat smaller than usual, 28.5.23.

Ingoldby 276; Angadere, in fruit, 1.7.23, *Ingoldby* 348, 349;

Yalova, *Ingoldby* 573; Angadere, *Ingoldby* 574; Kilia.

Ingoldby 576, 577; without locality. *Ingoldby* 575, *Kett*.

Distr. V. and north to Hungary and S. Tyrol. 2, 3, 4, 4a, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 9, 10, 11, 13, 14, 15, 16.

ANACARDIACEAE.

Pistacia terebinthus L. Sp. Pl. 1025 (1753).

Walker's Ridge, Anzac, 90 m., in fruit, 20.10.22, *Kett* 33; Suvla and Anzac, 16.5.24, a young shoot, somewhat doubtfully determined, *Kett* 109.

Distr. VI. 1, 2, 3, 4, 5, 6, 7, 8a, 8b, 11, 13, 14, 15, 16.

Rhus coriaria L. Sp. Pl. 265 (1753).

Jam Baz, end of July 1923, *Ingoldby* 584.

Distr. VI. 2, 3, 5, 6, 6a, 7, 8, 11, 13, 14.

LEGUMINOSAE.

Anagyris foetida L. Sp. Pl. 374 (1753).

Jam Baz, in patches, 8-11.5.23, *Ingoldby* 193, 227, later also found at Angadere and Yalova (Sestos); Suvla, 24.4.24.

Durham 91; Suvla, a bush 3 to 4 feet in height, 16.5.24, *Kett* 142.

Distr. V. 1, 2, 2a, 3, 6a, 7, 14.

Anthyllis Dillenii Schult. ex DC. Prodr. ii. 170 (1825) in syn.

A. vulneraria L. var. *rubriflora* DC. Prodr. ii. 170 (1825).

Kilia, common, often growing through plants of *Cistus*, 4.5.23, *Ingoldby* 140; Jam Baz Dere, common, 8.5.23, *Ingoldby* 155; Suvla, pale pink flowers, 24.4.24, *Durham* 61.

Distr. VI. and XII. 1, 2, 2a, 3a, 4, 4a, 5, 6, 6a, 6b, 7, 8a, 8b, 11, 12, 13, 14, 15, 16.

A. Hermanniae L. Sp. Pl. 720 (1753).

Kilia, 2.5.23, *Kett* 30; Maidos, cliff face, 18.5.23, *Ingoldby* 207; Angadere, 1.7.23, *Ingoldby* 364; sometimes sweet-smelling and fairly frequent in very dry places, *Durham*.

Distr. VI. 1, 2, 2a, 4, 4a, 5, 6a, 6b, 7, 7a, 11.

Astragalus anatolicus Boiss. Diagn. Ser. I. ii. 77 (1843), var. **parviflorus** Turrill var. nov.; a planta Boisseriana floribus minoribus, calycis semisegmentis brevioribus latoribusque recedit.

Angadere, Biyick Yakajik Tepe, about 250 m., early April and 29.4.23, *Ingoldby* 29, 119; in fruit, 22-24.7.23, *Ingoldby* 443; Kilia, dark yellow lemon flowers, 24.4.24, *Durham* 101.

Distr. (of species) X.

Astragalus anatolicus was originally described from Western Asia Minor "in regione montana Cariae et Lydiae, legi fructiferum in Tmolo supra Philadelphiam, in Sypilo et in montibus Cariae Aucher pl. exs. No. 1319 et 1320." In the *Flora Orientalis Suppl.* 179 (1888) there is added a specimen collected "ad Renkoei Troadis (Sint. 91). *A. Schmidtii* Heldr. exs. (ex Aschers. et Sint.). Specimen eis Sipyli et Tmoli simile." The example of *Sintenis* 91 preserved at Kew is, however, similar to the Gallipoli specimens, and differs from the Kew specimens of *Aucher-Eloy* in having smaller flowers and shorter, broader semi-segments to the calyx. It is possible that the Gallipoli and Troad specimens represent a geographical race, but the morphological characters separating it from *A. anatolicus* do not justify a new specific name on the material now available.

A. Durhamii Turrill in Kew Bull. 1923, 294.

Maidos, cliff face, in flower, 18.5.23, *Ingoldby* 210; and fruits collected later.

Distr. Endemic.

The additional material received enables me to amplify and modify the original description. The leaves are sometimes much larger than those originally described, being up to 3 dm. long in the new specimens. The leaflets are up to 4.5 cm. long and 1.3 cm. broad. The fruit is enclosed in the persistent calyx, which becomes enlarged and membranaceous, and corolla, and has long white silky hairs which are much denser in the upper part; it is slightly keeled on both sutures, the adaxial keel being broader than the abaxial; it is nearly ellipsoid with a slight lateral compression, and its length is 8 to 10 mm., its breadth from suture to suture nearly 6 mm., and at right angles to the suture plane 5 mm.; it is completely divided from suture to suture into two loculi by a yellow shining septum. Apparently only one ovule in each loculus normally matures to a seed. It is probable that the fruits described are not quite ripe, for though I opened a number, none of the seeds inside were plump, but all had collapsed. However, some have been sown with the hope that they may germinate.

A. Spruneri Boiss. Diagn. Ser. I. ii. 79 (1843) errore *Spruneri* var. **thessalus** Boiss. Fl. Or. ii. 473 (1872).

Astragalus thessalus Boiss. Diagn. Ser. I. ii. 80 (1843).

Suvla, 24.4.24, *Durham* 35, 93.

Distr. (of var.) XX. 3, 6.

A. trojanus *Stev.* in *Fisch. Syn. Astrag. Tragacanth.* 88 (1853).

Helles, in flower, 6.5.23, *Kett* 8; Kilia, common and abundant, 23.5.23, *Ingoldby* 220 and unlocalized flowering and fruiting specimens; Suvla and Anzac, 16.5.24, *Kett* 97.

Distr. X.

Colutea arborescens *L.* *Sp. Pl.* 723 (1753).

Angadere, barren shoot, 31.7.23, *Ingoldby* 534; Suvla and Anzac, 16.5.24, *Kett* 143.

Distr. VI. 2, 3, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 10, 10a, 11, 12, 13, 14, 15, 16.

Coronilla parviflora *Willd.* *Sp. Pl.* iii. 1155 (1800).

Jam Baz, yellow flowers, 8-11.5.23, *Ingoldby* 181; Suvla, 24.4.24, *Durham* 48.

Distr. X. 1, 2, 7.

C. parviflora *Willd.* var. **rubriflora** *Candargy* in *Bull. Soc. Bot. Fr.* xlv. 186 (1898).

Jam Baz, red-purple flowers, 8-11.5.23, *Ingoldby* 182; Helles, red-purple flowers but smaller than those of 182, 23-24.4.23, *Ingoldby* 103; Suvla, 24.4.24, *Durham* 55; Suvla, brilliant red, 24.4.24, *Durham* 86.

Distr. Here and there with the other varieties over the distributional area of the species.

C. scorpioides *Koch* in *Röhlings Deutschl. Fl.* v. 201 (1839). *Ornithopus scorpioides* *L.* *Sp. Pl.* ed. 2, 1049 (1763). *Astrolobium scorpioides* *DC.* *Prodr.* ii. 311 (1825).

Kilia, 25.4.24, *Durham* 112; Suvla, 16.5.24, *Kett* 125.

Distr. V. 1, 2, 2a, 4, 4a, 6, 6a, 7, 8, 8a, 9, 10, 11, 13, 14, 15, 16.

Dorycnium herbaceum *Vill.* *Hist. Pl. Dauph.* iii. 417 (1789).

Near Gaba Tepe, close to the beach, 10.6.23, *Ingoldby* 315.

Distr. VI. 2, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 10, 10a, 11, 12, 13, 14, 15, 16.

D. hirsutum *Ser.* in *DC. Prodr.* ii. 208 (1825). *Lotus hirsutus* *L.* *Sp. Pl.* 775 (1753).

Kilia, common, 4.5.23, *Ingoldby* 152; Walker's Ridge, Anzac, 90 m., in flower, 16.5.23, *Kett* 27; Angadere, woody sub-shrub, in flower and fruit, 28.5.23, *Ingoldby* 261, a plant with the majority of the leaflets obovate and with shorter calyces than in most of the specimens at Kew; Suvla and Anzac, 16.5.24, *Kett* 110.

Distr. VI. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 7a, 8b, 11, 13, 14, 15, 16.

Genista anatolica *Boiss.* *Diagn. Ser. I.* ii. 8 (1843).

Maidos, cliff-face, 18.5.23, *Ingoldby* 204.

Distr. X. 8b.

The indumentum in this species varies from specimen to specimen; that of the Gallipoli specimen agrees very closely with that of specimens collected on the hills round Smyrna by Boissier in 1842.

My friends, Prof. N. Stoianoff and Mr. B. Stefanoff, collected this species on dry limestone rocks at Ortakjoi, E. Rhodope, June 1924, and kindly sent me a specimen.

Gonocytisus angulatus Spach in Ann. Sci. Nat. Ser. 3, iii. 154 (1845).

Angadere, 1.7.23, *Ingoldby* 358; Yalova, 30.6.23, *Ingoldby* 392; and fruiting specimens from Anzac; Anzac, hill-sides, 4 to 5 feet in height, flowers rich yellow, in flower and fruit Oct.-Dec. 1923, *Kett* 74.

Distr. X. 7.

The excellent series of flowering and fruiting specimens now received leave no doubt of this species occurring in Gallipoli. A tentative note was published in the *Kew Bulletin* 1921, p. 128, but the specimen on which this was based was incomplete and represented a somewhat aberrant form. The specimens quoted above agree with the Asia Minor specimens preserved at Kew and with the figure in Sibthorp's *Flora Graeca*, t. 672, under the name *Spartium angulatum*.

Hedysarum varium Willd. Sp. Pl. iii. 1206 (1803).

Angadere, 1.7.23, *Ingoldby* 357; Angadere, Biyick Yakajik Tepe, fruits, 21.7.23, *Ingoldby* 429.

Distr. XI. 7.

Hippocrepis unisiliquosa L. Sp. Pl. 744 (1753).

Kilia, 19-22.4.23, *Ingoldby* 38; Suvla, yellow flowers, 24.4.24, *Durham* 32.

Distr. VI. 1, 2, 2a, 4a, 6a, 7, 11, 14, 15, 16.

Hymenocarpus circinnatus Savi, *Flora Pisana* ii. 205 (1798).

Medicago circinnata L. Sp. Pl. 778 (1753).

Suvla, dark yellow flowers, 24.4.24, *Durham* 69; Kilia, yellow flowers, 25.4.24, *Durham* 111.

Distr. V. 1, 2, 2a, 3, 3b, 4, 4a, 5, 6a, 6b, 7, 8a, 13, 14, 16.

Lathyrus annuus L. Sp. Pl. ed. 2, 1032 (1763).

Suvla and Anzac, 16.5.24, *Kett* 134.

Distr. VI. 1, 2, 2a, 4a, 5, 6, 6a, 7, 8a, 11, 14, 15, 16.

L. aphaca L. Sp. Pl. 729 (1753).

Helles, 23-24.4.23, *Ingoldby* 70; Kilia, yellow flowers, 25.4.24, *Durham* 109; Suvla and Anzac, 16.5.24, *Kett* 151.

Distr. V. and W. Europe. 1, 2, 2a, 3b, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

L. cicera L. Sp. Pl. 730 (1753).

Kilia, common and abundant on dry open hill-sides, 19-22.4.23, *Ingoldby* 34; Suvla, muddy Indian red coloured

flowers, 24.4.24, *Durham* 67 ; Suvla and Anzac, 16.5.24, *Kett* 140.
Distr. V. 1, 2, 2a, 3, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 12, 13,
 14, 15, 16.

***Lotus tenuis* W. et K.** in Willd. Enum. Pl. Hort. Berol. 797
 (1809).

Helles, 28.5.23, *Ingoldby* 248.

Distr. III. 1, 2, 2a, 3, 3a, 4, 5, 6, 6a, 7, 8, 8a, 9, 10, 11, 12,
 13, 14, 16.

Lupinus albus* L.** Sp. Pl. 721 (1753) var. ***termis *Fiori et Paoletti*
Fl. Anal. d'Ital. ii. 10 (1899). *Lupinus termis* Forsk. *Fl. Aegypt.-*
Arab. 131 (1775).

Distr. (of var.) X. 1, 4a, 7, 8a.

From seeds collected in Gallipoli by *Lt.-Col. Durham*, in
 flower at Kew in May, and in fruit in July, 1923.

With the material available I have failed to find sufficient
 evidence that *L. termis* Forsk. is specifically distinct from
L. albus L. Different degrees of development of the bracteoles
 occur in combination with different grades of hairiness. Since
 the Gallipoli specimens have bracteoles, although very small
 ones, and have relatively spreading rather shaggy hairs, I place
 it as the var. *termis*. More material and field observations are
 needed to confirm my present opinion or to prove it wrong.

***L. angustifolius* L.** Sp. Pl. 721 (1753).

Suvla, blue flowers, 24.4.24, *Durham* 58.

Distr. VI. 1, 2, 2a, 3, 6a, 7.

L. hirsutus* L.** Sp. Pl. 721 (1753) var. ***micranthus *Boiss.* *Fl.*
Or. ii. 28 (1872). *L. micranthus* Guss. *Flor. Sic. Prodr.* ii.
 400 (1828).

Achi Baba, rare and local on dry open ground, 8.5.23,
Ingoldby 160 ; Suvla, blue flowers, 24.4.24, *Durham* 59.

Distr. (of var.) X. 1, 2, 2a, 3b, 7.

***Medicago falcata* L.** Sp. Pl. 779 (1753).

Anzac, 27-28.5.23, *Ingoldby* 251 ; Maidos, 7.7.23, *Ingoldby*
 372 ; Angadere, 18 and 29.7.23, *Ingoldby* 459, 495.

Distr. III. 1, 2, 3, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12,
 13, 14, 15, 16.

***M. marina* L.** Sp. Pl. 779 (1753).

On sandy beach, in mats, Morto Bay, 23-24.4.23, *Ingoldby*
 84.

Distr. VI. 1, 2, 2a, 4a, 6a, 7, 8, 9, 11, 14, 15.

M. minima* Bartal.** *Cat. Piant. Siena* 61 (1786) var. ***mollissima
Koch Syn. ed. 1, 164 (1835).

Kilia, common and abundant on dry hillsides. middle of
 April 1923, *Ingoldby* 33 ; Jam Baz, 8-11.5.23, *Ingoldby* 175.

Distr. (of var.). Probably widely distributed within the dis-

tributional area of the species, which is V. and XII. 1, 2, 2a, 3, 3b, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

M. sativa L. Sp. Pl. 778 (1753).

Kilia, 27-28.5.23, *Ingoldby* 233; Boghali, 8.7.23, *Ingoldby* 409; Kilia, 11.8.23, *Ingoldby* 551.

Distr. III. 2, 3, 3b, 5, 6a, 8, 8a, 10, 11, 12, 14, 15, 16.

Melilotus albus Desr. in Lamk. Encycl. iv. 63 (1796).

Kara Kova Dere, growing very luxuriantly on stream-bank, up to 7 or 8 feet in height, 30.7.23, *Ingoldby* 515.

Distr. III. 2, 3, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

M. officinalis Desr. in Lamk. Encycl. iv. 62 (1796); Thuill.

Flore des Environs de Paris 377 (1799).

Koja Chemen Tepe, 27-28.5.23, *Ingoldby* 234; Kilia, 24.4.24, *Durham* 105.

Distr. III. 2, 2a, 4, 6, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 14, 15, 16.

M. indicus All. Fl. Pedem. i. 308 (1785).

Jam Baz, 8-11.5.23, *Ingoldby* 183.

Distr. V. 1, 2, 2a, 3, 4a, 5, 6a, 7, 8, 11, 13, 14, 15, 16.

Onobrychis aequidentata d'Urv. in Mém. Soc. Linn. Par. i. 346 (1822). *Hedysarum aequidentata* S. et S. Prodr. ii. 84 (1813) et Fl. Gr. t. 725 (1833).

Suvla, purple flowers, in flower and fruit, 24.4.24, *Durham* 57.

Distr. VI. 1, 2, 2a, 5, 6a, 7, 8a, 11, 14.

O. cana Hand.-Mazz. in Oesterr. Bot. Zeitschr. lix. 481 (1909).

O. lasiostachya β *cana* Boiss. Fl. Or. ii. 535 (1872).

Helles, 28.5.23, *Ingoldby* 266.

Distr. X.

O. gracilis Bess. Enum. Volhyn. 74 (1821).

Open oak scrub, 27.7.23, *Ingoldby* 480. A specimen with rather small flowers and depauperated inflorescences.

Distr. XIII. and XIX. 6a, 7, 8, 8a, 8b, 9, 11.

Ononis antiquorum L. Sp. Pl. ed. 2, 1006 (1763).

Angadere, 27.5.23, *Ingoldby* 474.

Distr. V. 1, 2, 2a, 3, 5, 6a, 6b, 11, 12, 13, 14, 15, 16.

O. pubescens L. Mant. ii. 267 (1771).

Walker's Ridge, Anzac, 90 m., in flower and fruit, 16.5.23, *Kett* 39; Maidos, cliff face, 18.5.23, *Ingoldby* 211; Anzac, 27.5.23, *Ingoldby* 258.

Distr. VI. 1, 2, 2a, 6a.

O. pusilla L. Syst. Nat. ed. 10, ii. 1159 (1759). *O. Columnae* All. Syn. Meth. Hort. Taur. u. Auct. 77 (1774), non vidi, et Fl. Ped. 318, t. 20, f. 3 (1785).

Angadere, 1.7.23, *Ingoldby* 350.

Distr. V. and XII. 2, 3a, 3b, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

O. repens *L.* Sp. Pl. 717 var. **procurrens** sensu *Asch. & Graebn.* Syn. vi. 2, 345 (1907).

Eski Keui, 3.6.23, *Ingoldby* 279; Angadere, 24.7.23, *Ingoldby* 467.

Distr. IV. 8, 9, 10, 12, 13, 14, 16.

It is with some hesitation that I use this name for the Gallipoli specimens. They are decidedly spiny and have elongated terminal branches on which the flowers are rather loosely arranged. The flowers are 1.5 cm. long, and the indumentum of the stems ranges from finely shortly and densely pubescent to a combination of pubescent and pilose. Glandular hairs occur sparsely on the younger parts only.

Orobis hirsutus *L.* Sp. Pl. 728 (1753).

Kilia, 2-3.5.23, *Ingoldby* 130; Angadere, in open oak scrub, 27.7.23, *Ingoldby* 479.

Distr. XI. 1, 2, 3, 3b, 4, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 10.

O. hirsutus *L.* var. **glabriusculus** *Ser.* in DC. Prodr. ii. 376 (1825). *O. hirsutus* *L.* var. *glabratus* Griseb. Spic. Fl. Rumel. i. 76 (1843).

Angadere, 27.7.23, *Ingoldby* 478.

Distr. Here and there with other varieties throughout the distributional area of the species.

Pisum arvense *L.* Sp. Pl. 727 (1753).

Jam Baz Dere, 8.5.23, *Ingoldby* 154.

Distr. III. 2, 3b, 4a, 6a, 7, 10, 10a, 11, 12, 13, 14, 15, 16.

Psoralea bituminosa *L.* Sp. Pl. 763 (1753).

Kilia, common, 4.5.23, *Ingoldby* 151, the specimen from an old plant 4 feet or more in height.

Distr. V. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 11, 13, 14, 16.

P. bituminosa *L.* var. **plumosa** *Beck* in Reichb. Ic. Fl. Germ. xxii. 91 (1903). *P. plumosa* Reichb. Fl. Germ. Exs. 869 (1832).

Kilia, 4.5.23, *Ingoldby* 151a.

Distr. V. 1, 2, 7, 8, 8a, 11, 14.

Scorpiurus subvillosa *L.* Sp. Pl. 745 (1753).

Suvla, deep yellow flowers, 24.4.24, *Durham* 62.

Distr. VI. and to the Crimea. 1, 2, 2a, 4a, 5, 6a, 7, 8a, 11, 14, 15, 16.

Spartium junceum *L.* Sp. Pl. 708 (1753).

Suvla, in flower, 17.5.23, *Kett* 41; Anzac, 27-28.5.23, *Ingoldby* 237.

Distr. VI. 1, 2, 2a, 3, 3a, 4, 4a, 5, 6a, 7, 7a, 8, 11, 12, 13, 14, 15, 16.

Trifolium arvense L. Sp. Pl. 769 (1753).

Angadere, 22-24.7.23, *Ingoldby* 440.

Distr. III. and south to Abyssinia. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

T. isthmocarpum Brot. Phytog. Lusit. Select. i. 148, t. 61 (1816).

Helles, common, 23-24.4.23, *Ingoldby* 101.

Distr. VII.

This species apparently has been recorded hitherto only from the western parts of the Mediterranean Basin, namely Portugal, Spain and N.W. Africa, and from Sicily. The Gallipoli plant agrees well with specimens preserved at Kew from these countries. In the original figure the flowers are inaccurately drawn, especially the calyces and corollas. *T. isthmocarpum* is distinguished from other species morphologically resembling it by the sessile flowers.

T. nigrescens Viv. Fl. Ital. Fragm. 12, t. 13 (1808).

Helles, common, 23-24.4.23, *Ingoldby* 76.

Distr. VI. 1, 2, 2a, 3, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 12, 13, 14, 15, 16.

T. procumbens L. Sp. Pl. 772 (1753) sensu *T. campestre* Schreb. in Sturm. Deutschl. Fl. Heft. xvi., t. 13 (1804).

Kilia, common, 19-24.4.23, *Ingoldby* 60, 108; Suvla, 24.4.24, *Durham* 63.

Distr. IV and VI. 2a, 3, 3b, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

T. purpureum Lois. Fl. Gall. ii. 484 (1807).

Helles, common, 28.5.23, *Ingoldby* 262; Maidos, 14.6.23, *Ingoldby* 334.

Distr. V. 2, 2a, 3, 3b, 4, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 13.

T. repens L. Sp. Pl. 767 (1753).

Boghali, common, 29.4.23, *Ingoldby* 128.

Distr. III. 1, 2, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 7a, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

T. resupinatum L. Sp. Pl. 771 (1753).

Helles, 28.5.23, *Ingoldby* 249; Kilia Bay, 24.4.24, *Durham* 82.

Distr. V. 1, 2, 2a, 3, 4a, 5, 6, 6a, 6b, 7, 8a, 10, 11, 13, 16.

T. spumosum L. Sp. Pl. 771 (1753).

Suvla and Anzac, 16.5.24, *Kett* 150.

Distr. V. 1, 2, 2a, 6a, 7.

T. stellatum L. Sp. Pl. 769 (1753).

Boghali, 29.4.23, *Ingoldby* 125.

Distr. V. and XII. 1, 2, 2a, 4a, 5, 6, 6a, 7, 11, 13, 14, 15, 16.

T. stellatum *L. var. adpressum* *Turrill* var. nov.; a planta vulgari pilis in pedunculo adpressis differt.

Suvla, pale pink flowers, 24.4.24, *Durham* 60; Suvla and Anzac, 16.5.24, *Kett* 116. A specimen in the Kew Herbarium from the Troad: Thymbra, in collibus, 3.5.83, *P. Sintenis* 175, *Iter trojanum* 1883, is also this variety.

T. uniflorum *L.* Sp. Pl. 771 (1753).

Kilia, common, 23-24.4.23, *Ingoldby* 105; general in the western parts of the Peninsula, white to pinkish flowers, 24.4.24, *Durham* 74.

Distr. VI. 1, 2, 2a, 6a, 6b, 7, 7a, 14.

Trigonella foenum-graecum *L.* Sp. Pl. 777 (1753) ?

Anzac, in flower, 20.3.23, *Kett* 54.

Distr. V. and to Caucasus. 1, 2, 6a, 7.

In the absence of ripe fruits I am not quite certain of the identification of the above specimen.

T. gladiata *Stev.* in *Fisch. Cat. Hort. Gorenk.* 1808, 112, non vidi; *Boiss. Fl. Or.* ii. 69 (1872).

Helles, common, 23-24.4.23, *Ingoldby* 92, a plant with the leaflets broader and the flowers slightly larger than in most specimens, and in some respects approaching *T. cariensis* *Boiss.*

Distr. VI. and to Caucasus. 2, 6a, 7, 8, 8a, 9, 10, 13, 14, 16.

T. Spruneriana *Boiss.* *Diagn. Ser. I. ii.* 17 (1843).

Suvla and Anzac, 16.5.24, *Kett* 141.

Distr. X. 2, 7.

Vicia amphicarpa *Dorthes* in *Journ. Phys.* xxxv. 131 (1789) non vidi; *Hal. Consp. Fl. Gr.* i. 478 (1900).

Suvla, purple flowers, 24.4.24, *Durham* 53.

Distr. V. 2, 5, 7.

V. angustifolia *L.* *Amoen. Acad.* iv. 105 (1759) var. *segetalis* *Koch. Syn.* 197 (1835).

Helles, common, 23-24.4.23, *Ingoldby* 73.

Distr. IV. and VI. 1, 2, 2a, 3b, 6, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

V. cracca *L.* Sp. Pl. 735 (1753).

Helles, common, 23-24.4.23, *Ingoldby* 71.

Distr. III. 2, 4a, 5, 7, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

V. cuspidata *Boiss.* *Diagn. Ser. I. ii.* 104 (1843).

Helles, common, 23-24.4.23, *Ingoldby* 72, 77.

Distr. X. 6a, 7.

V. grandiflora *Scop.* *Fl. Carn.* ed. 2, ii. 65, t. 42 (1772).

Suvla, lemon yellow whitish flowers, *Durham* 36, 83.

Distr. X. and XII. 2, 3, 3b, 4a, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

V. hybrida L. Sp. Pl. 737 (1753).

Suvla and Anzac, 16.5.24, *Kett* 131.

Distr. VI. and XIII. 1, 2, 2a, 4a, 5, 6, 6a, 7, 8a, 11, 12, 13, 14, 15, 16.

V. lutea L. Sp. Pl. 736 (1753) var. **hirta** Lois. Fl. Gall. 462 (1807). *Vicia hirta* Balb. ex Pers. Syn. ii. 308 (1807).

Suvla and Anzac, 16.5.24, *Kett* 149.

Distr. V. 1, 2, 2a, 3b, 4a, 6, 6a, 6b, 7, 8, 10, 11, 12, 13, 14, 15, 16.

V. narbonensis L. Sp. Pl. 737 (1753).

Helles, common on open hillsides, 23.4.23, *Ingoldby* 62 ; Suvla, purple and whitish flowers, 24.4.24, *Durham* 85.

Distr. VI. 2, 3, 5, 6, 6a, 6b, 7, 8, 8a, 9, 11, 13, 14, 15, 16.

V. peregrina L. Sp. Pl. 737 (1753).

Kilia, common and abundant on dry hillsides, middle of April 1923, *Ingoldby* 32 ; Suvla, flowers pale blue-mauve and whitish inside, 24.4.24, *Durham* 52, 66.

Distr. VI. 1, 2, 2a, 4, 5, 6, 6a, 7, 8, 8a, 9, 10, 11, 13, 14, 15, 16.

V. sativa L. Sp. Pl. 736 (1753) var. **cordata** Arcang. Comp.

Fl. Ital. ed. 2. 524 (1894) ; Hal. Consp. Fl. Gr. i. 479 (1900).

Vicia cordata Wulf in Sturm. Deutschl. Fl. Heft 32 (1812).

Jam Baz, 8-11.5.23, *Ingoldby* 185.

Distr. (of var.) V. 1, 2, 2a, 3b, 4a, 5, 6a, 10, 11, 12, 13, 14, 15, 16.

V. tenuifolia Roth. Tent. Fl. Germ. i. 309 (1788) var. **stenophylla** Boiss. Fl. Or. ii. 586 (1872).

Jam Baz, 8-11.5.23, *Ingoldby* 187 ; Walker's Ridge, Anzac, in flower and with immature fruits, 16.5.23, *Kett* 7.

Distr. (of var.) III. 1, 2, 3, 6a, 7, 8, 8a, 8b, 9, 10, 11, 13, 14.

V. villosa Roth. Tent. Fl. Germ. ii. 2. 182 (1793).

In masses all over Gallipoli, in the valleys, 1922, *Durham* ; Suvla, red purple flowers, 24.4.24, *Durham* 49.

Distr. IV. and V. 2, 2a, 3, 3b, 6, 6a, 7, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

ROSACEAE.

Agrimonia eupatoria L. Sp. Pl. 448 (1753) var. **major** Boiss.

Fl. Or. ii. 728 (1872).

Maidos, 14.7.23, *Ingoldby* 373.

Distr. III. 2, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

Cotoneaster pyracantha Spach Hist. Veg. ii. 73 (1834). *Mespilus pyracantha* L. Sp. Pl. 478 (1753).

Between Sogaule Dere and Jam Baz, in flower, 8-11.5.23, *Ingoldby* 184.

Distr. VI. and to Caucasus and Crimea. 3a, 3b, 4, 5, 6, 6a, 7, 7a, 8a, 11, 12, 14.

C. pyracantha *Spach* var. **aurantiaca** *Turrill* var. nov.; ab planta vulgari baccis aurantiacis differ.

Suan Dere, in fruit, Nov. 1923, *Kett* 79. In a letter to me Kett says "the *Cotoneaster* is not plentiful, the berries were a beautiful deep orange colour, the shrub about three feet high, growing in sandy clay at about 90m. altitude." Capt. Ingoldby's specimen is in flower only and may or may not belong to this variety.

Cydonia oblonga *Mill.* Gard. Dict. ed. 8 (1768) sensu Schneider, Ill. Handb. i. 654 (1906).

Angadere, early April 1923, *Ingoldby* 20.

Distr. V. 2, 2a, 3, 4, 4a, 6a, 7, 8, 8a, 8b, 10, 12, 14, 15, 16.

Potentilla hirta *L.* Sp. Pl. 497 (1753).

Jam Baz, 8-11.5.23, *Ingoldby* 180; Angadere, in open oak scrub, 27.7.23, *Ingoldby* 485; Kilia, golden yellow flowers, 24.4.24, *Durham* 14.

Distr. V. 2, 3, 3a, 3b, 4, 5, 6, 6a, 7, 7a, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

P. hirta *L.* var. **laeta** *Aschers. & Graebn.* Syn. vi. i. 768 (1904).

Angadere, 22-24.7.23, *Ingoldby* 432.

Distr. (of var.) XIX. and Italy, and S. Russia. 3a, 3b, 5, 6, 6a, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

Poterium sanguisorba *L.* Sp. Pl. 994 (1753).

Hill 1141, N.W. of Angadere, 27.7.23, *Ingoldby* 536; common in the western parts of the Peninsula, 23-24.4.23, *Durham* 54.

Distr. III. 1, 2, 3, 3a, 3b, 4, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 10, 10a, 11, 12, 13, 14, 15.

P. spinosum *L.* Sp. Pl. 994 (1753).

Common prickly shrub, almost everywhere in the western parts of the Peninsula, 24.4.24, *Durham* 70.

Distr. VI. 1, 2, 2a, 3, 4, 4a, 6a, 6b, 7, 7a, 11, 13, 14, 15.

Pyrus amygdaliformis *Vill.* Cat. Pl. Jard. Strasb. 323 (1807) non vidi; Boiss. Fl. Or. ii. 654 (1872).

Kara Kova Dere, in fruit August 1923, *Ingoldby* 562; Suvla, 1923, a slender tree about 16 feet in height, *Kett* 63.

Distr. VI. and to the Crimea. 1, 2, 2a, 3, 3a, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 10, 10a, 11, 13, 14, 15, 16.

P. domestica *Smith* Engl. Bot. t. 350 (1796) ?

Angadere, 24.7.24, *Ingoldby* 475.

Distr. VI. and South Russia. 2, 2a, 3, 3a, 3b, 6, 6a, 8, 8a, 10, 12, 13, 14, 15, 16.

The specimen is barren and the determination is therefore tentative.

Rosa sempervirens L. Sp. Pl. 492 (1753); S. et. S. Fl. Gr. t. 483 (1825); Aschers. u. Graebn. Syn. vi. i. 36 (1900) var. **opaca** Uechtr. ex Christ in Boiss. Fl. Or. Suppl. 229 (1888).

Eski Keui, 3.6.23, *Ingoldby* 280.

Distr. X. 7.

Other specimens of this variety in the Kew Herbarium are : Dardanelli: in valle Rhodii fl., 28.5.83, *P. Sintenis* Iter trojanum 1883, Nr. 844; Rumeli-Hissar, June 1877, *Post* 367. Christ, l.c., considers this a hybrid, *R. sempervirens* \times *dametorum*. I am not convinced that this is the correct view, since the three specimens at Kew, from different localities and by different collectors, have the same morphological characters. The plants are obviously connected morphologically with *Rosa sempervirens* but differ from the widely distributed varieties in the pinnatifid foliaceous calyx segments. For the present I prefer to consider them a variety of *R. sempervirens*.

Rubus tomentosus Borkh. in Roem. Neu. Mag. Bot. i. 2 (1794), sensu Hal. Consp. Fl. Gr. i. 504 (1900).

Helles, 28.5.23, *Ingoldby* 275.

Distr. VI. and XII. 2, 3, 3a, 3b, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 15, 16.

R. ulmifolius Schott in Isis 1818, 821, non vidi, var. **anatolicus** Focke ex Heldr. Herb. Gr. Norm. 844a (1884); Hal. Consp. Fl. Gr. i. 503 (1900). *R. anatolicus* Focke in Abh. Nat. Ver. Brem. ix. 335 (1886).

Boghali, 8.7.23, *Ingoldby* 388.

Distr. V. and XII. and east to Ceylon. 2, 2a, 3, 4, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 13, 14, 15, 16.

CRASSULACEAE.

Sedum altissimum Poir. in Lamk. Dict. iv. 634 (1796).

Maidos, in the valley, 14.6.23, *Ingoldby* 330.

Distr. VI. 1, 2, 2a, 4a, 6b, 7, 7a, 15.

MYRTACEAE.

Myrtus communis L. Sp. Pl. 471 (1753).

Suvla, in fruit, 20.11.22, *Kett* 65; seeds also from Koja Dere. A shrub 2 to 4 feet in height, only growing near water or where the soil is damp. The natives use the leaves for flavouring in the same manner that bay leaves are used.

Distr. V. 1, 2, 2a, 3, 4, 4a, 5, 7, 7a, 11, 13, 14, 15, 16.

LYTHRACEAE.

Lythrum salicaria L. var. **tomentosum** DC. Cat. Hort. Monsp. 123 (1813). *Lythrum tomentosum* Mill. Gard. Dict. (1768).

Angadere, near the beach, 18.7.23, *Ingoldby* 456.

Distr. (of species) I. 2, 3, 3a, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10,

11, 12, 13, 14, 15, 16. The variety *tomentosum* occurs with other varieties in the distributional area of the species, but especially in the Mediterranean Region.

Punica granatum L. Sp. Pl. 472 (1753).

Suvla, 8.6.23, *Ingoldby* 301.

Distr. V. 1, 2, 3, 3a, 3b, 5, 6, 6a, 7, 7a, 11, 13, 14, 16.

(To be continued.)

XXXVII.—MISTLETOE ON OAKS.

L. A. BOODLE.

Prof. K. von Tubeuf's elaborate work on the Mistletoe (*Monographie der Mistel*, 1923) includes chapters dealing very thoroughly with the geographical distribution and the host-plants of the Mistletoe. Three races or varieties of the Common Mistletoe (*Viscum album*) are recognised¹, two of which occur, in nature, only on Conifers, while the third ('Laubholzmistel') is found on various Dicotyledonous plants.²

Reports on the distribution and host-plants of the Mistletoe were obtained from forestry officials and others in different countries of Europe by Tubeuf, who also made an extensive study of the literature of the subject, and a critical examination of many of the records and statements.

One of the facts brought out clearly by this study is that mistletoe parasitic on oaks is rare in comparison with its occurrence on other hosts. For England, this fact is illustrated by the information contained in an article published by Prof. Somerville³ in 1914, and including records of the occurrence of mistletoe on different host-plants, supplied in that year by fifteen correspondents in different parts of the country. Only two of these correspondents mentioned cases of the mistletoe parasitic on oaks, while the total records included nineteen genera of host-plants. In Germany it appears that no more than two fully authenticated cases of mistletoe on native oaks are known, while, for Italy, Tubeuf accepts Pollini's statement that mistletoe is not found on oaks in that country.⁴

An enquiry was received recently at Kew as to whether there is any record of the mistletoe growing on the Holm Oak (*Quercus Ilex*), the question having arisen in connection with certain lines of Virgil, which will be referred to below.

¹ See Tubeuf's earlier work :—*Die Varietäten oder Rassen der Mistel*, Naturwiss. Zeitschr. f. Land- und Forstwirtschaft, vol. 5, 1907, p. 321.

² For these races or varieties, three varietal names have been proposed, viz. *Viscum album* vars. *Abietis*, *Pini* and *Mali*; see Tubeuf, Monogr. d. Mistel, p. 669.

³ Somerville, Naturwiss. Zeitschr. f. Land- und Forstwirtschaft, vol. 12, p. 207.

⁴ Tubeuf, Monogr., pp. 724 and 726.

Mistletoe parasitic on Holm Oak appears to be unknown. It occurs on *Quercus pedunculata* and *Q. sessiliflora*, but Tubeuf (p. 727) states that there is no certain record of its occurrence on other oaks of central Europe, although it is found on some of the introduced American species of *Quercus*.¹ According to Tubeuf (p. 762), moreover, the variety of the common mistletoe which grows on Dicotyledons ('Laubholzmistel') has not been observed, in nature, on any evergreen tree or shrub, either in Germany, where the Flora is certainly poor in evergreens, or in the South of Europe, where they are more numerous.²

One may conclude, therefore, that mistletoe either does not grow on the Holm Oak, or only as an extremely rare occurrence. The mistletoe is, however, occasionally parasitic on *Loranthus europaeus*, which grows chiefly on oaks, and, as Tubeuf points out (pp. 98 and 726), this fact is accountable for a certain number of erroneous records of mistletoe on oaks in South-East Europe, etc., the leafy mistletoe being conspicuous in winter, when the *Loranthus*, on which it is growing, has shed its leaves and may be easily overlooked. *Quercus Cerris* L. and *Q. lanuginosa* Thuill. (*Q. pubescens* Willd.) are among the host-plants of *Loranthus europaeus*³, but whether the Holm Oak can be added as a host is uncertain.⁴

The lines of Virgil referred to above are 205–209 of book VI of the *Aeneid* :—

Quale solet silvis brumali frigore viscum
Fronde virere novâ, quod non sua seminat arbos,
Et croceo foetu teretes circumdare truncos :
Talis erat species auri frondentis opacâ
Ilice ; sic leni crepitabat bractea vento.

It may be noted that opinions have not been quite unanimous as to the use of the words 'viscum' and 'ilex' by Virgil. Bubani⁵ suggests that in certain cases 'viscum' may mean *Loranthus europaeus*, and mentions that, though most of the commentators on Virgil take 'ilex' to mean *Quercus Ilex*, Schrank maintains that *Q. coccifera* is intended. Schrank's view is not supported by Bubani nor by Sargeant.⁶

In the passage from Virgil quoted above, there seems to be no reason against interpreting 'ilex' as Holm Oak, while the context of the word 'viscum' should fix the meaning as mistletoe.

¹ On *Q. palustris* and *Q. rubra* in Germany. One of the two records of mistletoe on oaks in England, referred to above, was on *Q. rubra*, the other being on the Common Oak.

² The mistletoe can, however, be artificially induced to grow on the evergreen *Nerium Oleander* (Tubeuf, p. 762).

³ Schneider, Ill. Handb. d. Laubholzkunde, 1906, vol. 1, p. 248 ; Tubeuf, Monogr., p. 726.

⁴ Nobbe, in Ber. deutsch. bot. Gesellsch., vol. 2, 1884, p. 343, records the occurrence of *Loranthus europaeus*, at Pirna in Saxony, on "Steineiche" and "Stieleiche." Though "Steineiche" properly means *Quercus Ilex*, it appears more probable that *Q. sessiliflora* was intended.

⁵ Bubani, Flora Virgiliana, 1876, p. 130 ; also p. 64 (Ilex).

⁶ Sargeant, The Trees, Shrubs and Plants of Virgil, 1920, p. 61.

Virgil's description, however, does not amount to a statement that mistletoe grows on the Holm Oak, but rather refers to a magic golden leafy branch on that tree (cf. the earlier lines of the same book of the Aeneid :—135–144), similar to mistletoe in appearance, but, as appears to be implied by the Latin words used, consisting of metallic gold.¹

Theophrastus describes, according to Hort's translation², both *Loranthus europaeus* and *Viscum album* as growing on a species of oak, which he calls Prinos (*πρίνος*) and which Hort interprets as Kermes Oak (*Quercus coccifera*). Tubeuf's opinion³ is that the mistletoe in this case may have been parasitic on *Loranthus* growing on the oak⁴, and that the Prinos here referred to by Theophrastus was not *Quercus coccifera*, but that his description was based on a composite impression of the characters of the Kermes Oak and of another species of *Quercus*.

Viscum cruciatum, the only other European species of this genus, is found in Palestine and in Spain, but has not apparently been recorded on oaks. The Olive is stated to be its most frequent host.

XXXVIII.—MISCELLANEOUS NOTES.

The following appointments have been made by the Secretary of State for the Colonies :—

CAPT. J. F. C. O'BRIEN, Senior Agricultural Officer, Tanganyika Territory ; MR. C. K. LATHAM, B.Sc., District Agricultural Officer, Tanganyika Territory ; MR. R. R. GLANVILLE, B.A. Agr. B., Provincial Superintendent, Agricultural Department, Sierra Leone.

MR. A. G. BAILEY, Economic Botanist, Department of Agriculture, Trinidad, has been appointed Senior Supervisor, Agricultural Department, Kenya. (*K.B.* 1921, p. 319.)

The Cultivation of New Zealand Plants.*—Within a compass of some 140 pages, Dr. Cockayne has produced an interesting book. It is a distinct break away from the usual gardening manual, for we believe it to be the only gardening book devoted entirely to the flora of one country, thus giving it the unique

¹ See translations of the Aeneid by Fairclough, by Owgan and Mongan, notes of Anthon, etc. Tubeuf (Monogr., p. 20) writes :—"der [goldene] Zweig des Aeneas heisst nicht geradezu Mistel, er ist nur das traumhafte Abbild einer solchen."

² Theophrastus, Enquiry into Plants, with Eng. transl. by Sir A. Hort, 1916, Book 3, ch. 16, par. 1.

³ Tubeuf, Monogr., p. 12, notes 1 and 2.

⁴ No case of mistletoe on oak being known in Greece.

* By L. Cockayne, Ph.D., F.R.S., F.L.S. Whitcombe & Tombs, Ltd., Christchurch, New Zealand (and at 9, St. Andrews Hill, London, E.C. 4.). Price 4s. 6d.

position of being a link between the scientist and the enthusiastic amateur gardener.

Dr. Cockayne has not only a wide knowledge of the ecology of the New Zealand Flora, but has also been a keen cultivator of all New Zealand plants, and his many years' experience in this direction is to be found woven throughout the text of this book.

The book is divided into various chapters, such as "Trees Suitable for Cultivation", "Herbs, Semi-woody Plants and Grasses Suitable for Cultivation", "Climbing Plants Suitable for Gardens", etc. A whole chapter is devoted to those interesting plants the Veronicas, and brief references are made to about one hundred species of this genus.

Dr. Cockayne pays particular attention to the habitats of the 800 species mentioned in the book, and records at what elevation each species grows. He also notes whether a plant is "hardy", "half-hardy" or "very hardy", which should prove a useful guide to those who may wish to cultivate them in this country. Wherever possible, the native or Maori names are also given.

The unbounded love of the author for his native flora and the desire that the rising generation of the Dominion should take an interest in and respect the flora of their land, three-quarters of which is to be found nowhere else in the world, is easily seen in the last three chapters, viz.: "Plants for Decorating the Home", "Native Plants for School Grounds and Children's Gardens", and "Native Plants for Town Gardening."

It is mainly through the indomitable spirit and untiring efforts of the author that a greater interest is now being taken by the people of New Zealand in the rich and unique flora that clothes her shores and mountains, and his new publication may be taken as his crowning effort and contribution to this ever-increasing enthusiasm. The book is full of helpful information not only for gardeners in our Dominions but for growers in England and abroad. It is written in the typical style of the author, lucid, instructive and full of interest. It contains a coloured plate of *Leptospermum scoparium* var. *Nichollsii*, besides 24 illustrations from photographs of various plants. An appendix in a condensed form and under various headings gives the names of plants suitable for various situations.

J. A. McP.

Rhododendrons for Amateurs.*—"This volume, as its title implies, is strictly utilitarian in its purpose. It has been written in order to supply amateur growers of this fascinating genus with information of a simple and practical nature." With these opening remarks Mr. E. H. M. Cox gives the prospective reader a very good idea of the trend and tone in which the book is written. Its appearance is certainly very opportune. The introduction of many new species of Rhododendrons from China

* Rhododendrons for Amateurs, by E. H. M. Cox. Country Life, Ltd., London, pp. 112 and xvi., pl. 15, price 5s.

by Wilson, Forrest, Farrer, Kingdon-Ward and others, has created a widespread interest in the cultivation of the species. Gorgeous as are the magnificent large-leaved hybrids when in flower, out of bloom the foliage lacks the wide variety of the species, and many cultivators will be in agreement with the author when he remarks "Frankly I have a decided preference for *Rhododendron* species compared with most hybrids." A large proportion of the 120 odd pages are occupied with descriptions of about 150 species, arranged in their respective series. The cultural details are often of special value, the author sometimes giving valuable hints on the peculiar likes or dislikes of individual species. Here is an example, "*R. orbiculare* . . . I suggest planting it in rich soil in half shade, and to keep the plant continually mulched with leaves. The moment they disappear another layer should be placed on the soil around the roots." The first chapter dealing with the distribution and habit of *Rhododendron* species is interesting and instructive to amateurs and professionals alike, for Mr. Cox has seen many of the plants growing in their native habitats, and cultivated them in his Scotch garden. Useful information to the grower is afforded in a chapter dealing with situation, soil, wind, sun and rain, propagation and the nursery. The book is illustrated with fifteen full page plates, one of the most interesting being a row of *R. fictolacteam* photographed by Mr. George Forrest in China. Towards the end of the book a tabulated list of the best hybrids is given, with the colour and time of flowering. Select lists of twelve species of *Rhododendrons* for half-a-dozen different uses in the garden provide the beginner with a starting point.

Mr. Cox is to be congratulated on the publication of a useful book for garden lovers, made doubly interesting by the frank manner in which the author places his experiences and views at the service of his readers.

A. O.

Bougainvillea "Mrs. Butt".—This fine claret-coloured *Bougainvillea*, which is apparently a colour variety of *B. spectabilis*, was discovered in the year 1910 growing in a Priest's garden near Carthagena, Colombia, by Mrs. R. V. Butt, wife of the Manager of the Colonial Bank, Trinidad. Cuttings were brought back to Trinidad, where they were rooted by the Curator of the Botanic Gardens, and the plant is now a favourite plant in most gardens in Trinidad.

As it strikes very readily from cuttings its propagation affords no difficulty, unlike *B. lateritia*, which can only be propagated with great difficulty by means of root cuttings. Plants of the Mrs. Butt variety were sent to Kew from Trinidad a few years ago, and the large plant in No. 5 Greenhouse flowers freely and retains its good colour under greenhouse treatment. It can also be successfully grown as a small pot plant as cuttings will flower when only a foot or two high.

Galium flavicans.—The name *Galium flavicans* Borb. is used by Degen in Mag. Bot. Lap. iv. 126 (1905), by Kosanin l.c. viii. 209 (1909), and by Urumoff l.c. xii. 218 (1913). I have failed to trace it but apparently it is a mistake for *G. flavescens*. The latter name is given by Borbás in Math. és Termés. Kozlémények M. Tudományos Akadémia xi. 266 (1873) (title page dated Budapest 1876), as a substitute for *G. ochroleucum* Kit. in Schultes Österr. Flora I. 305 (1814) non Wolf in Schw. et Koerte Fl. Erlang. 36 (1811). The *G. ochroleucum* of Wolf is generally regarded as a hybrid between *G. verum* L. and *G. mollugo* L. If one accepts homonyms and does not use the binary combination *G. ochroleucum* for the hybrid then the name *G. ochroleucum* Kit. can be retained for the species as in Nyman's Consp. 328, nr. 56 (1879). If, however, homonyms are rejected or the binary combination *G. ochroleucum* Wolf is retained for the hybrid then the name *G. flavescens* Borb. stands.

In his Enum. Flor. Transsilv. 281 (1886) Simonkai rejects the name *G. flavescens* Borb., substituting the new name *G. marisense* Simk. He does this on the ground that an earlier *G. flavescens* was published by Wierzb. ex Heuff. in Verh. Zool. Bot. Ges. viii. 124 (1858). The name *flavescens*, however, is here used only for a var. β of *G. purpureum* L., and no binary combination is made. Simonkai, l.c., gives a complete list of synonyms.

W. B. T.

The Biology of Flowering Plants.*—Dr. Macgregor Skene has produced a very stimulating and living book. His aim being "to give an account of the way in which the flowering plant lives, especially in relation to its environment", he treats the plant as an individual rather than as a member of a community, and approaches the problems of biology from the physiological standpoint. With a wealth of examples he not only traces the normal developments, but also mentions many of the noteworthy exceptions. Both in the case of illustrations and examples he has endeavoured to call attention to those which are not found as a rule in textbooks, and thereby enhances the value of his work.

Dr. Skene deals with his subject under the following chapters: (i) The Absorption of Water and Salts, (ii) Assimilation and Transpiration, (iii) Special modes of Nutrition, (iv) Mechanical Problems, Protection, (v) Reproduction and Dispersal, and (vi) Development. These he subdivides fully, and discusses each in the light of our latest knowledge. The book is well illustrated by carefully chosen copies, excellent original drawings by Miss A. M. Davidson, and by 8 half-tone plates. The book will be of very great interest to botanists and plant lovers; it is attractively written, the descriptions are lucid, the arrangement is clear, and there is a comprehensive bibliography of about six hundred references.

K. W. B.

* By Macgregor Skene, D.Sc. Sidgwick & Jackson, Ltd., London, 1924, 8vo., pp. 523, 68 illustrations in text, 8 plates. Price 16/-.